

REMARKS

Applicant has carefully reviewed this Application in light of the Final Office Action mailed July 6, 2004. At the time of the Office Action, Claims 41, 43-48 and 56-58 were pending. Claims 1-18, 42, 49-55, and 59-61 were previously cancelled by Applicant. Claims 19-40 were previously withdrawn due to an election/restriction requirement. Claims 41, 43-48, and 56-58 stand rejected under § 103(a). Applicant has canceled Claim 45 without prejudice or disclaimer. Applicant respectfully requests reconsideration and favorable action in this case.

Rejections under 35 U.S.C. § 103

Claims 41, 43-48, and 56-58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,629,186 issued to Robert D. Yasukawa et al. (hereinafter "Yasukawa") in view of U.S. Patent 4,923,901 issued to Hubert Koester et al. (hereinafter "Koester"). Applicant respectfully traverses and submits that the combination of Yasukawa and Koester, even if proper which Applicant does not concede, would not yield the claimed embodiment of the invention.

In order to establish a *prima facie* case of obviousness, the references cited by the Examiner must disclose all claimed limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Furthermore, according to § 2143 of the Manual of Patent Examining Procedure, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Here, the combination of the art cited would not yield the claimed embodiment of the invention. The Examiner notes that the Yasukawa et al. reference "does not teach the use of specific biological compounds linked to the material." The Examiner cites Koester et al. noting it teaches "membranes with bound oligonucleotides and peptides." (emphasis added) The

Examiner also notes that the Koester et al. reference "teaches that nucleic acids or peptides/proteins may be either absorbed or non-specifically linked to materials such as porous alumina or silica." From the above, the Examiner concludes it would have been obvious to one of ordinary skill to the art "to immobilize nucleic acids or peptides/proteins as taught by Koester et al. with the method of Yasakawa et al. because Koester et al. teaches that these molecules may be linked to surfaces of silica and alumina." It is respectfully submitted that the above conclusion is incorrect and in complete contradiction to the teaching of Koester et al.

Koester et al. teaches previously others have attempted to utilize "beaded material such as cellulose, glass beads, Sephadex, Sepharose, agarose, polyacrylamide, porous particulate alumina, hydroxyalkyl methacrylate gels, diol-bonded silica and porous ceramics. Flat material such as filter disc of nylon and nitrocellulose and are very frequently used to immobilize nucleic acids for hybridization experiments by adsorption." (Col. 1, lines 23-32) In contrast to the Examiner's conclusion, Koester et al. teaches one of ordinary skill in the art that none of the above systems should be utilized and that Koester et al.'s "membrane" system should be utilized. Indeed, Koester et al. actually teaches that the following should be utilized: (1) copolymers which contain functional groups like acrylic acid esters, etc.; (2) polymers with functional groups such as cross-linked polystyrene, polysulfur, etc.; (3) radiated chemically inert polymers such as polysulfurs, Teflon, etc.; and (4) copolymer coated chemically inert polymers. (Col. 5, lines 6-54). Thus, Koester et al. actually teaches away from the use of systems comprising "alumina," "silica" or "porous ceramics," in general, when nucleic acids or peptides/proteins are involved. Yasukawa et al. teaches a material comprising "silica" and "alumina." Thus, according to Koester et al. such a material like Yasukawa et al.'s should not be utilized with RNA, DNA, proteins and/or peptides. Indeed, as noted, Koester et al. teaches one should utilize one of the four-mention "polymer membrane" systems with DNA, RNA, peptides and proteins. Consequently, the Applicant respectfully submits that when the full teachings of Koester et al. are considered, Koester et al. actually teaches away from the combination of systems like Koester et al.'s involving RNA, DNA, proteins and/or peptides with Yasukawa's alumina and silica containing system and thus, the obviousness rejection should be withdrawn.

Claims 41, 43-48, and 56-58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 96/24631 issued to Mark B. Lyles et al. (hereinafter "Lyles") in view of Koester. Since the WO 96/24631 Lyles reference also discloses a material comprising

alumina, and/or silica, it is respectfully submitted that the combination of Koester et al. with Lyles does not render the claimed embodiment of the invention obvious. As stated above in relation to Yasukawa, Koester et al. teaches away from the use of systems comprising "alumina" and/or "silica" when RNA, DNA, protein or peptides are involved. Koester teaches that a polymeric membrane should be utilized. Consequently, there is no motivation to combine these references, and as noted, Koester et al. expressly teaches away from said combination. Therefore, Applicant requests withdrawal of the rejection and favorable action.

CONCLUSION

Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests reconsideration and full allowance of Claims 41, 43, 44, 46-48 and 56-58.

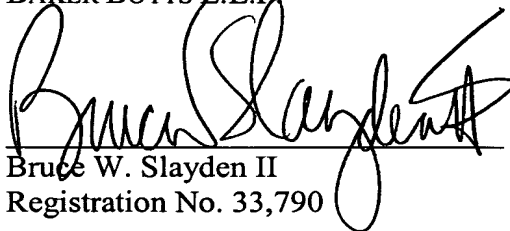
Applicant encloses a check in the amount of \$395.00 for the RCE fee required under 37 C.F.R. 1.17(e). Applicant also encloses a Change of Correspondence Address and a Petition for Two-Month Extension of Time along with a check in the amount of \$215.00 for the extension fee.

Applicant believes no additional fees are due at this time, however, the Commissioner is hereby authorized to charge any fees to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this application that may be cleared up in a telephone conversation, please contact Applicant's attorney at 512.322.2606.

Respectfully submitted,

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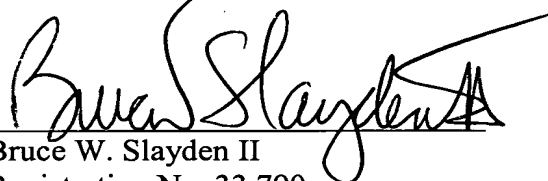
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